DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
Interim Final 2/5/99
RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)
Current Human Exposures Under Control

Facility Name: Former Dana Corporation
Facility Address: Robeson and Weiser Streets, Reading , PA 19612
Facility EPA ID #: PAD002343630

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

☒ If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	x			Groundwater contaminated with organic compounds and RCRA metals (Act 2 Final Report)
Air (indoors)[2]		x		Concentrations of contaminants in the groundwater are below the non-residential indoor air Regional Screening Levels (RSLs)
Surface Soil (e.g., <2 ft)		X		No contamination detected
Surface Water		X		No record of contamination
Sediment		X		No record of contamination
Subsurf. Soil (e.g., >2 ft)	x			Contamination detected (Act 2 Final Report)
Air (outdoors)		x		No record of contamination

☐ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

☒ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

☐ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Background:

The site area is approximately 50 acres. The property contains four main buildings (Weiser, Lewis, Tool & Die, and Arsenal). A smaller warehouse, the Goshert Building, is at the southern end of the facility. The main buildings at the site cover a total area of approximately one million square feet. The remaining area of the site is paved and includes parking lots, rail spurs, and storage areas. Carpenter Technology (a steel mill) borders the site to the north and northwest, residential neighborhoods and small business border the site to the east and south, and Conrail Railroad borders the site to the west on the eastern bank of the Schuylkill River. The Schuylkill River is located approximately 400 feet west of the facility.

The site was formerly utilized for the manufacture and assembly of automobile and truck frames. On-site activities included steel cutting, steel pressing, steel shaping, and coating and painting. All production at the facility was suspended in September 2000.

The property was transferred to Reading Properties L.P. in 2004, and as a part of the transfer, the deed was modified to limit the site to commercial or industrial activities, excluding schools, nursing homes and other residential-style facilities and recreational areas (non-residential uses). There is a city ordinance that prohibits the use of groundwater.

Currently, majority of the property is owned by Carpenter Technology, and the remaining property is owned by HAR Associates, LP and Reading Properties, L.P.

Investigation and Remediation:

Site investigations and remediation were performed at the facility.

Soil investigations showed that Ethylbenzene, Carbon tetrachloride, lead, thallium, and PCBs were detected at concentrations above the EPA Region 3 Non-residential direct contact Regional Screening Levels (RSLs). Soils contaminated with PCBs were remediated to the Act 2 Statewide Health Standard of 30 mg/kg.

Groundwater investigations showed that TCE, PCE, benzene, toluene, 1,2,4-trimethylbenzene, cadmium, and lead were detected at concentrations exceeding the respective MCLs.

On December 20, 2004, PADEP approved the Facility's Final Act 2 Report which include a Post Remediation Care Plan that required the facility to perform additional groundwater sampling for Toluene. In a letter dated October 25, 2007, PADEP acknowledged the facility's completion of the Post Remediation Care Plan. The remediation performed at the Facility attained compliance with the non-residential cleanup standards. The Final Report calls for the deed restrictions to limit the land uses of the facility to non-residential purposes.

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	No	No	No	Yes	NA	NA	No
Air (indoors)	NA	No	NA	NA	NA	NA	NA
Soil (surface, e.g., <2 ft)	No	No	No	No	No	No	No
~~Surface Water~~							
~~Sediment~~							
Soil (subsurface e.g., >2 ft)	No	No	No	Yes	No	No	No
~~Air (outdoors)~~							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

☒ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

☐ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

☐ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

The main buildings at the site cover a total area of approximately one million square feet. The remaining area of the site is paved and includes parking lots, rail spurs, and storage areas. The contaminated soils are covered by the buildings or pavement and the property is restricted to non-residential uses. Therefore, exposure pathway to contaminated soils is not complete. Construction workers' exposures to contaminated soils are protected thru PPE.

There are no known groundwater wells in the area of the site. In addition, there is a city ordinance that prohibits the use of groundwater. Therefore, exposure pathway to contaminated groundwater is not complete. Construction workers' exposures to contaminated GW are protected thru PPE.

The concentrations of contaminants in the groundwater are below the non-residential indoor air Regional Screening Levels (RSLs). Therefore, vapor intrusion pathway would not be concerned under current condition.

Groundwater flows toward the Schuylkill River. A fate and transport modeling performed by the facility demonstrates no current or future impact to surface water from contaminated groundwater, therefore, no exposure pathway exist for surface water under current condition.

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

☒ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

☐ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

☐ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

Construction workers' exposures are protected thru PPE. Therefore, the exposures could be reasonably expected to be insignificant.

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

☐ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

☐ If no - (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

☐ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code.

Rationale and Reference(s):

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI (event code CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

☒ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Former Dana Corp. facility, EPA ID # PAD002343630, located at Roberson and Weiser Streets, Reading, PA 19612 under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

☐ NO - "Current Human Exposures" are NOT "Under Control."

☐ IN - More information is needed to make a determination.

Completed by (signature) _____ Date 9/30/2016
(print) Tran Tran
(title) Project Manager

Supervisor (signature) _____ Date 9-30-2016
(print) Paul Gotthold
(title) Associate Director
(EPA Region or State) EPA Region 3

Locations where References may be found:

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